MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

Jack Buckley, *Director*

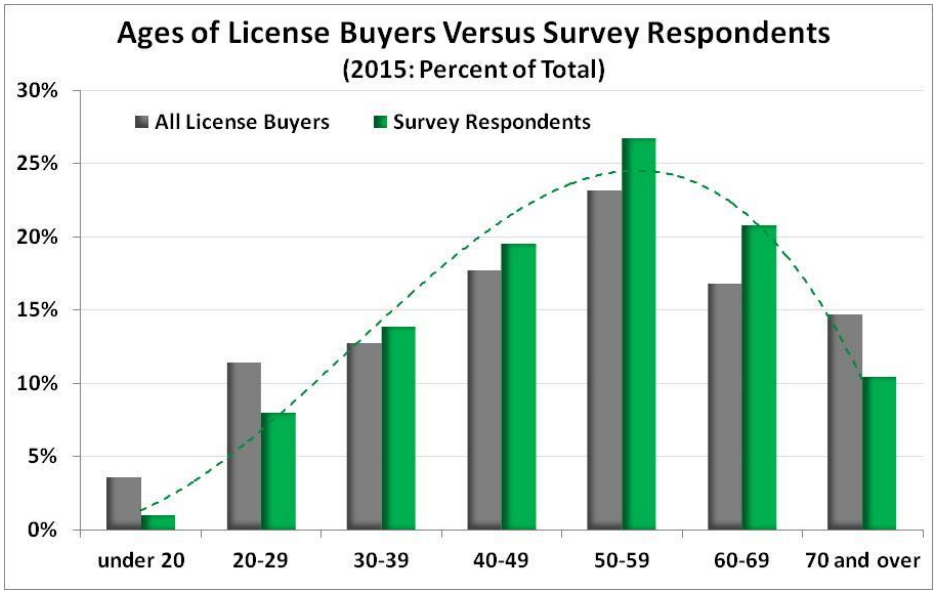
Hunter Survey Summary (2012 – 2015)

Since 2012, MassWildlife has conducted an online survey of licensed hunters in order to better understand hunter trends and to aid in the management of game species in the Commonwealth. The survey is sent to a random sample of hunters that provided an email address in the licensing system. Continue reading for an explanation of the survey and survey results.

For a hunter survey to be accurate, the survey respondents must correctly represent the population of hunters (sample spread out geographically, representative ages, and a large enough sample size).

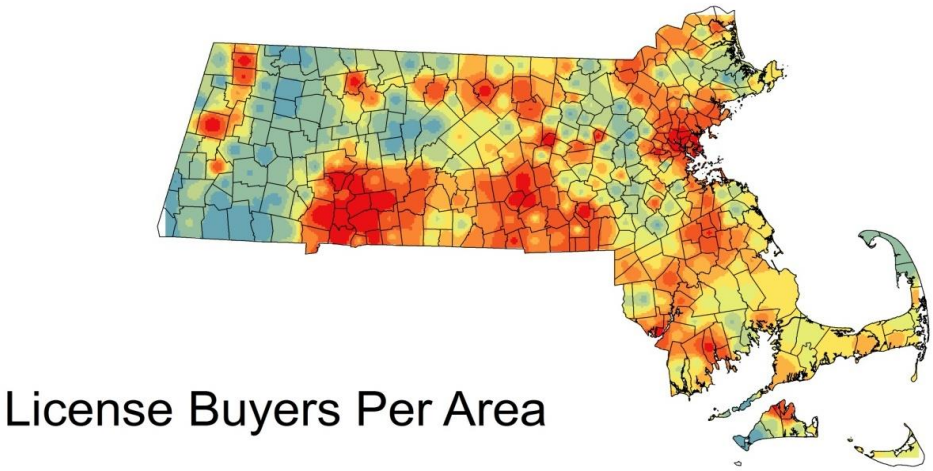
Did we have a large enough sample?
Yes, we have had an excellent sample size. We had over 8,000 responses each year during 2012-2014 *(invitations were sent to every valid email in the MassFishHunt system: over 30,000).* For the 2015 survey, we shortened the survey and dropped the sample size to about 14,000 randomly selected email addresses and received 4,925 responses. For 2016, we have increased the number of invites to 19,000 randomly selected email addresses to ensure that we are sampling over 5% of all hunters.

Did the survey accurately reflect the ages of all MA hunters?
Yes, the survey respondents were very representative of the ages of hunters in MA.



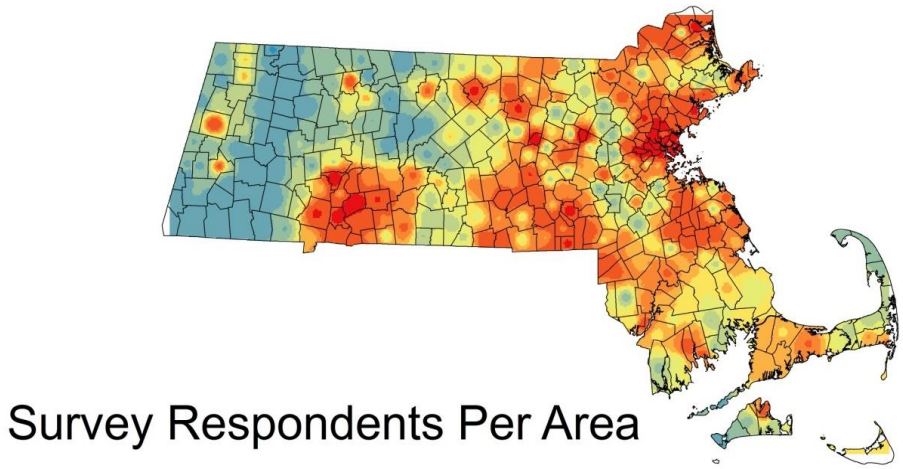
What does this figure mean: The gray bars show ages of all hunters in MA (from 2015 license sales) and the green bars show the ages of the hunters that took the 2015 survey. The trends are very similar, which means the survey did an excellent job of representing hunters by age group. There was a slight underrepresentation of hunters over 70 and under 30 in the survey.

Did the survey fairly represent hunters across the state?
Yes. We compared the town of residence for all license buyers to the town of residence of those that took the survey. We found that survey did an excellent job of representing hunters across the state (i.e., we did not over-sample any one region).



License Buyers Per Area

What does this figure mean: This figure shows the relative density of hunters residing per town based on 2012 license data (so where all hunters live). Red = higher density of hunters; blue = lower density of hunters. Similar results seen in 2013-2015 license data.



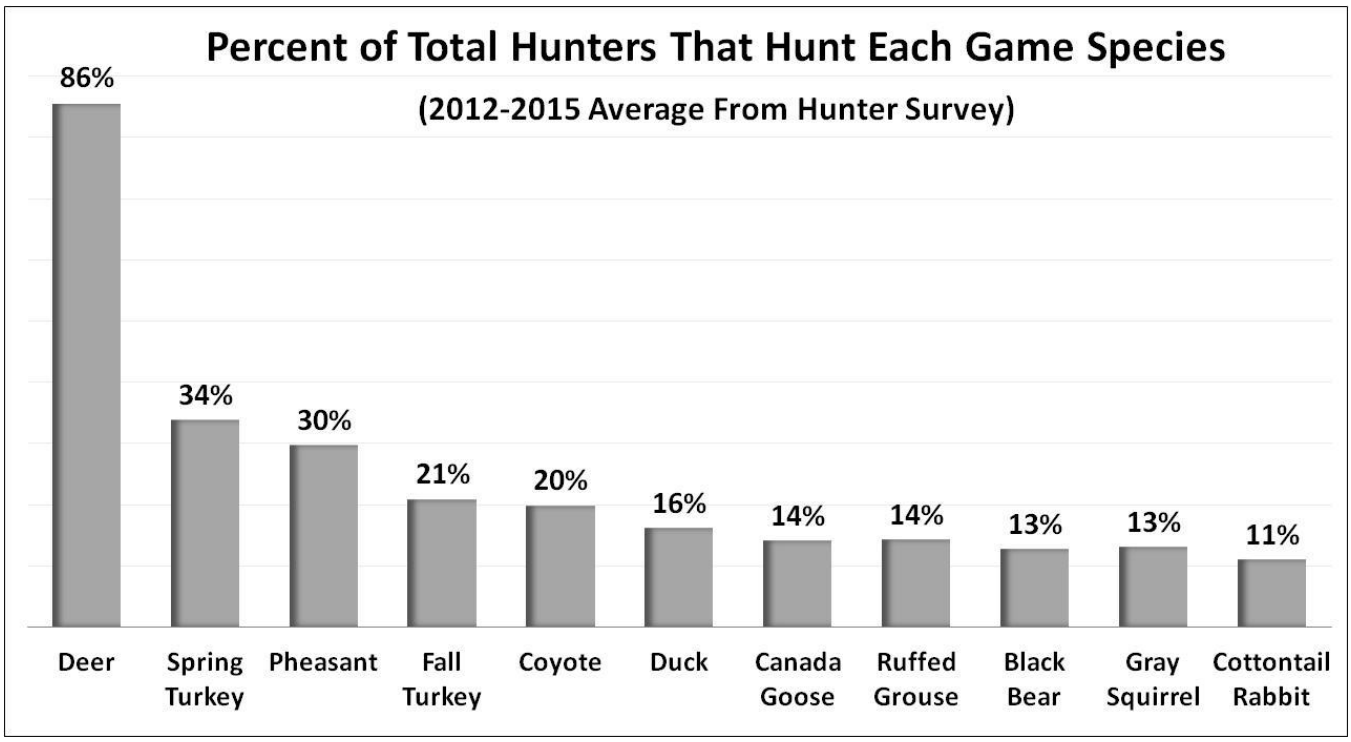
Survey Respondents Per Area

What does this figure mean: This figure shows the relative density of hunters residing per town based on those that took the 2012 survey. Red = higher density of hunters; blue = lower density of hunters. The patterns of color look very similar between this figure of survey respondents and for all hunters (above figure), meaning the survey was representative of MA hunters, based on where they live. Similar results seen in 2013-2015 hunter surveys.

Hunting by Game Species

When asked if a respondent actually hunted in Massachusetts, **86%** responded with yes (2012-2015 average), **12%** responded with I bought a license intending to hunt, but did not actually hunt, and less than **2%** responded with I purchased a license with no intention of hunting (e.g., to donate money, etc.). We then use the 86% figure with our total licenses sold to come up with approximately 60,000 active MA hunters.

We can then use this estimate and the below estimates of the proportion of hunters that target each species, to come up with an estimate of the total number of hunters that actually hunted each species. For instance, we can calculate that there are approximately 50,000-55,000 deer hunters in MA (60,000 active hunters x 86% of hunters targeted deer).



What does this figure mean: This figure shows the estimated percentage of MA hunters that pursued each major game species, based on the average from 2012 - 2015 surveys. Game species hunted by fewer than 11% of hunters were not shown here. *Interesting note: Black bear hunter numbers increased in 2015 because of the addition of the black bear shotgun season, concurrent with the shotgun deer season.*

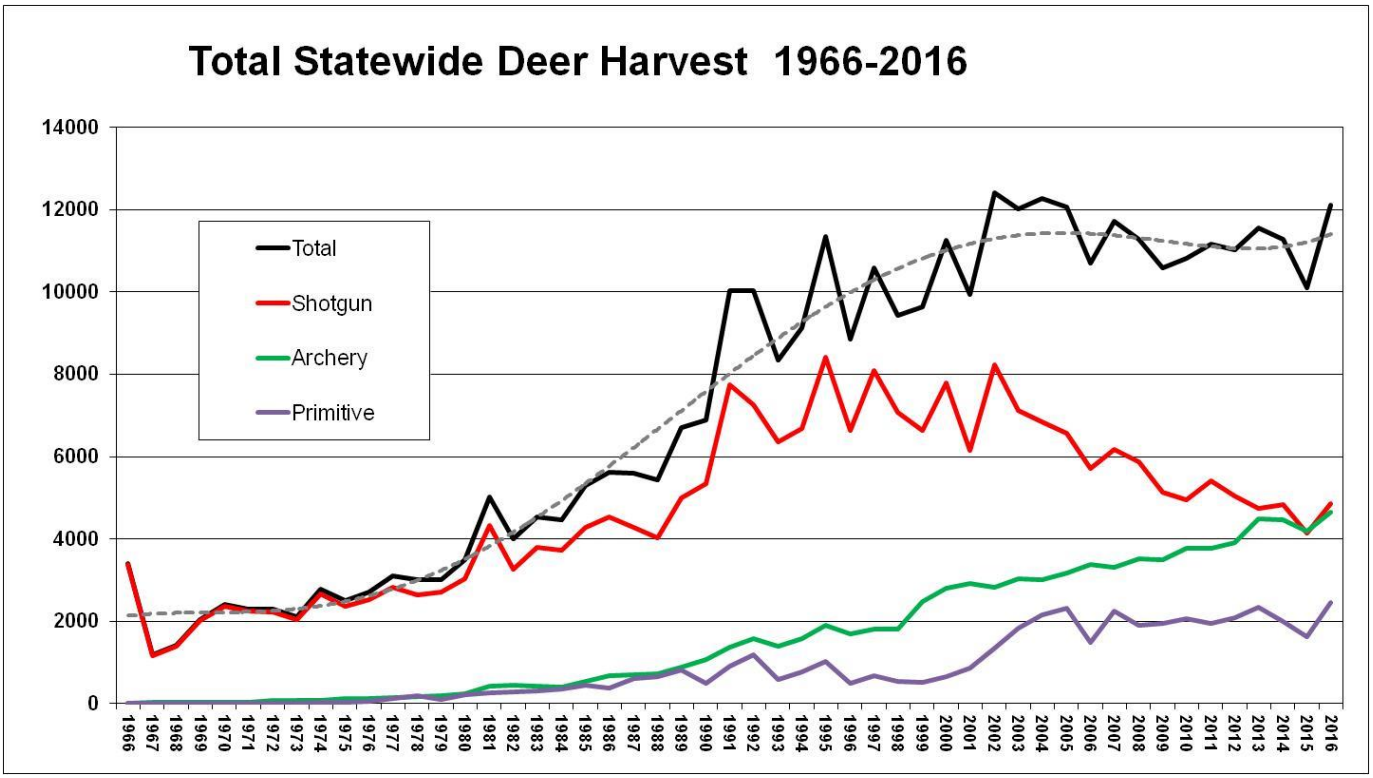
Deer Hunting Questions

Of the estimated 50,000 – 55,000 deer hunters in MA, about 64% hunted during the archery season, 90% hunted during the shotgun season, 71% hunted during the primitive season, and approximately 49% hunted during all three seasons (based on average from 2012-2015 surveys).

During the 2015 shotgun deer season, 66% of hunters reported hunting the opening day. This is down from the 69% reported in 2014 (annual variation is typically related to weather and snow cover).

Deer Harvest Summary

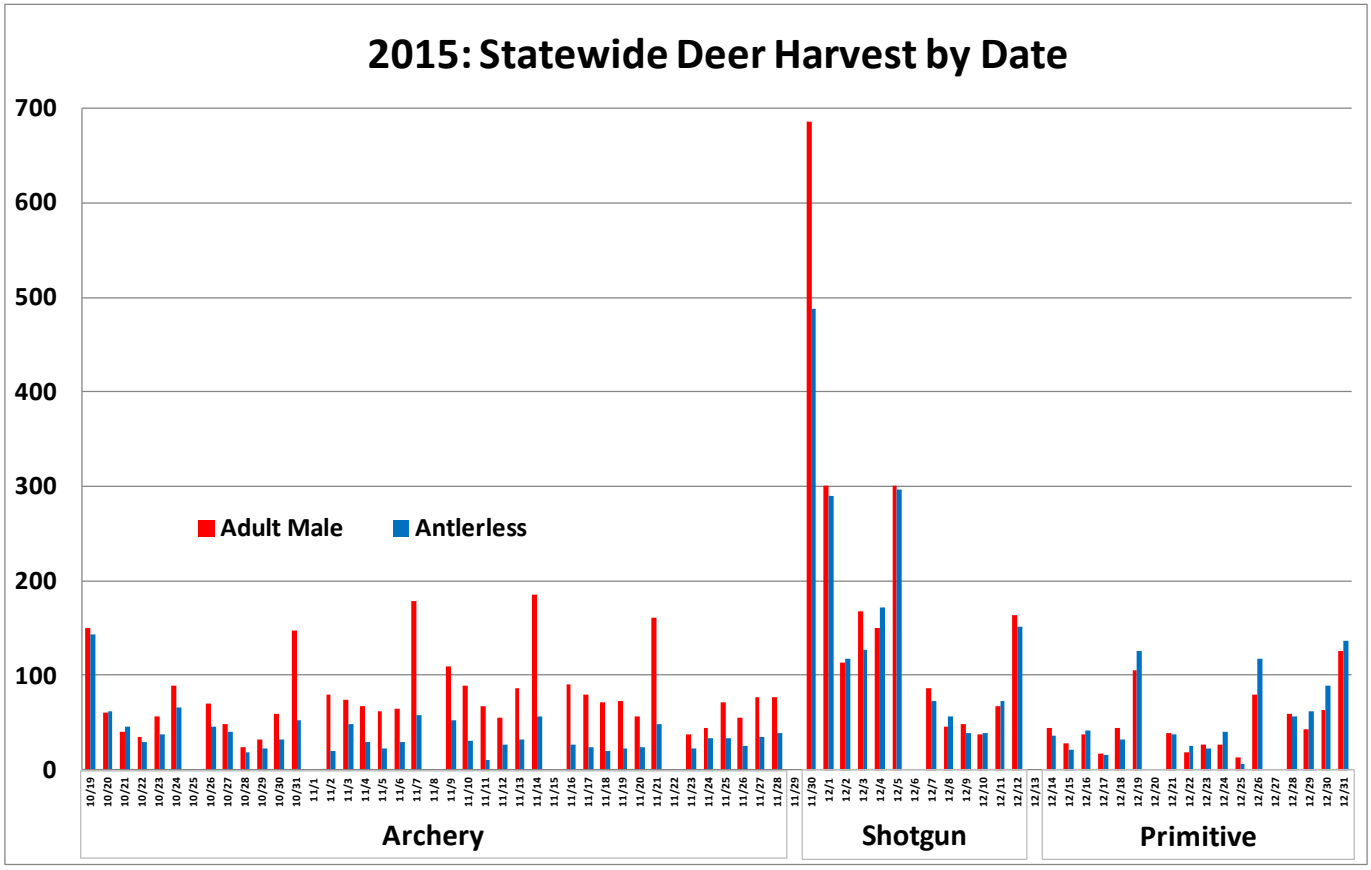
The 2015 deer harvest was down slightly statewide, likely related to warm weather, lack of snow, and abundance of food, such that deer did not have to move as often and as far for food, making them less available to hunters. We also noticed this drop in the sighting rates. However, the 2016 preliminary deer harvest numbers appear to be making up for last year's low harvest — close to a record harvest (see figure below).



What does this figure mean: This figure shows the total reported deer harvest by year (black line) as well as the total harvest by season (archery, shotgun, and primitive firearms). The 2016 harvest numbers are preliminary.

Harvest Data by Date (from harvest reports, not the hunter survey):

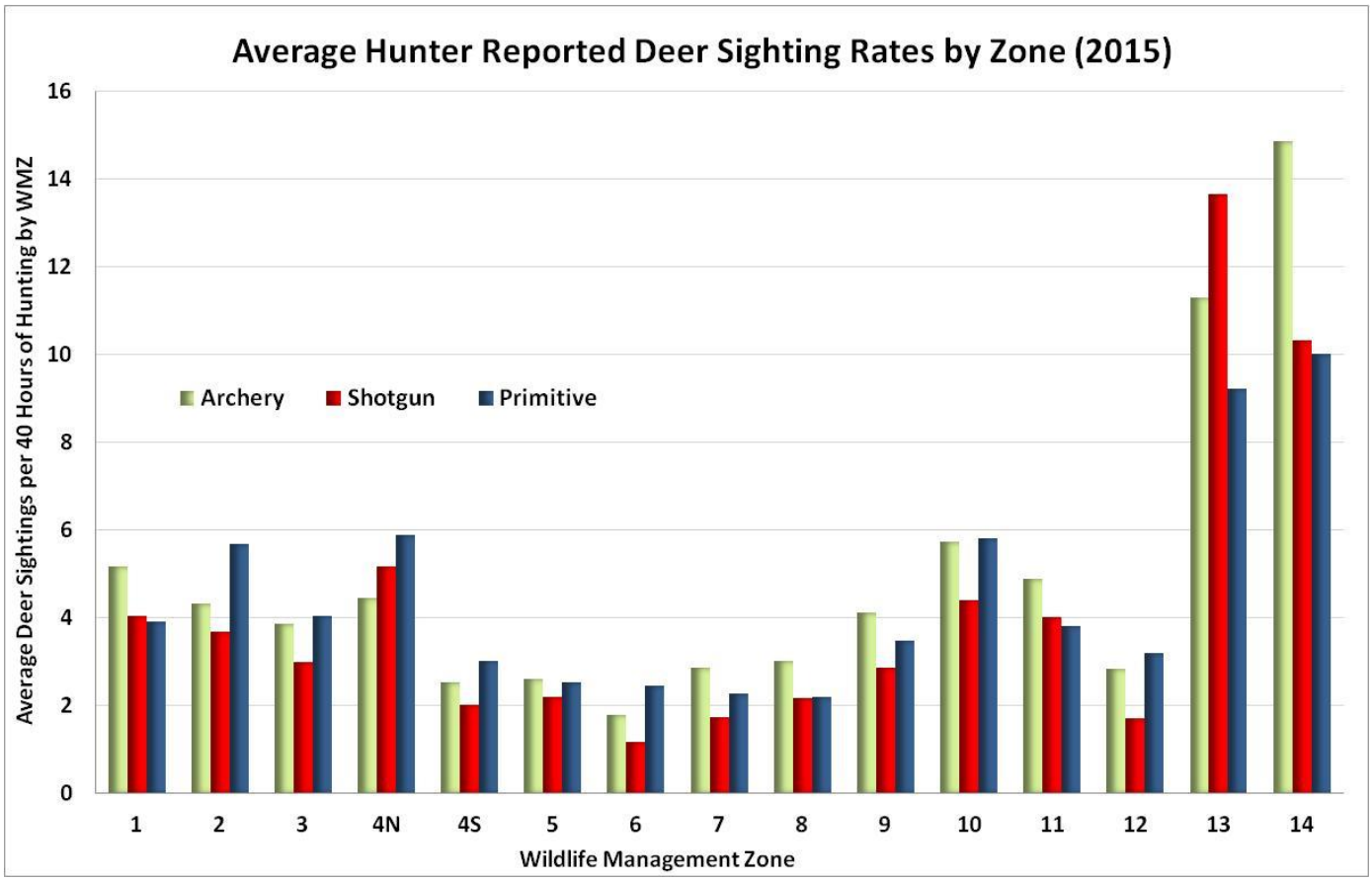
We can display the harvest data by date to show how the harvest is distributed across the entire season. There are several unique patterns seen here. The first is the clear opening day spike in harvest on the shotgun opener. Weather and the interaction with hunter effort can affect the harvest on this day and can really change the total harvest for the year. The same is true for weather on other important days, like the two Saturdays in shotgun. The second pattern is the increase in antlered harvest during the rut, related to bucks being more active during the day and more available for harvest. The timing of the rut is very consistent from year to year and peak breeding is typically around November 8th to November 16th.



What does this figure mean: This figure shows the total daily harvest of adult male and antlerless deer across the entire 2015 season in Massachusetts. *The opening day of shotgun harvest is much lower than in 2014, but the first Saturday of shotgun is higher than in 2014. Again, much of the day to day variability is likely related to weather and hunter effort.*

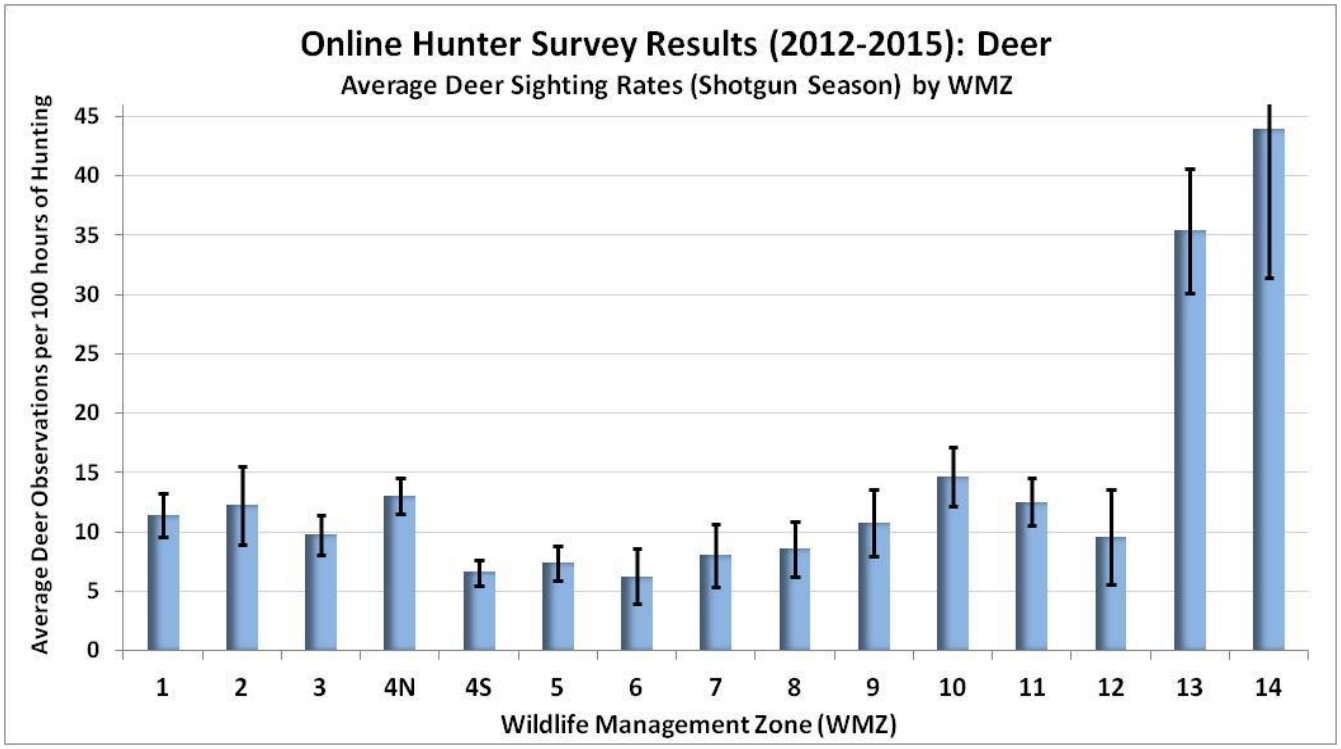
Hunter Survey: Sighting Rates of Deer

In the hunter survey, we asked questions on sightings of wildlife to all deer hunters, such as how many deer were observed while deer hunting in each zone and season. This is a wonderful opportunity to see what hunters are seeing on the ground and to complement our harvest data and density estimates.



What does this figure mean: This figure shows the average of the reported number of deer observed per 40 hours of hunting for each zone during the archery, shotgun, and primitive seasons, based on the 2015 hunter survey.

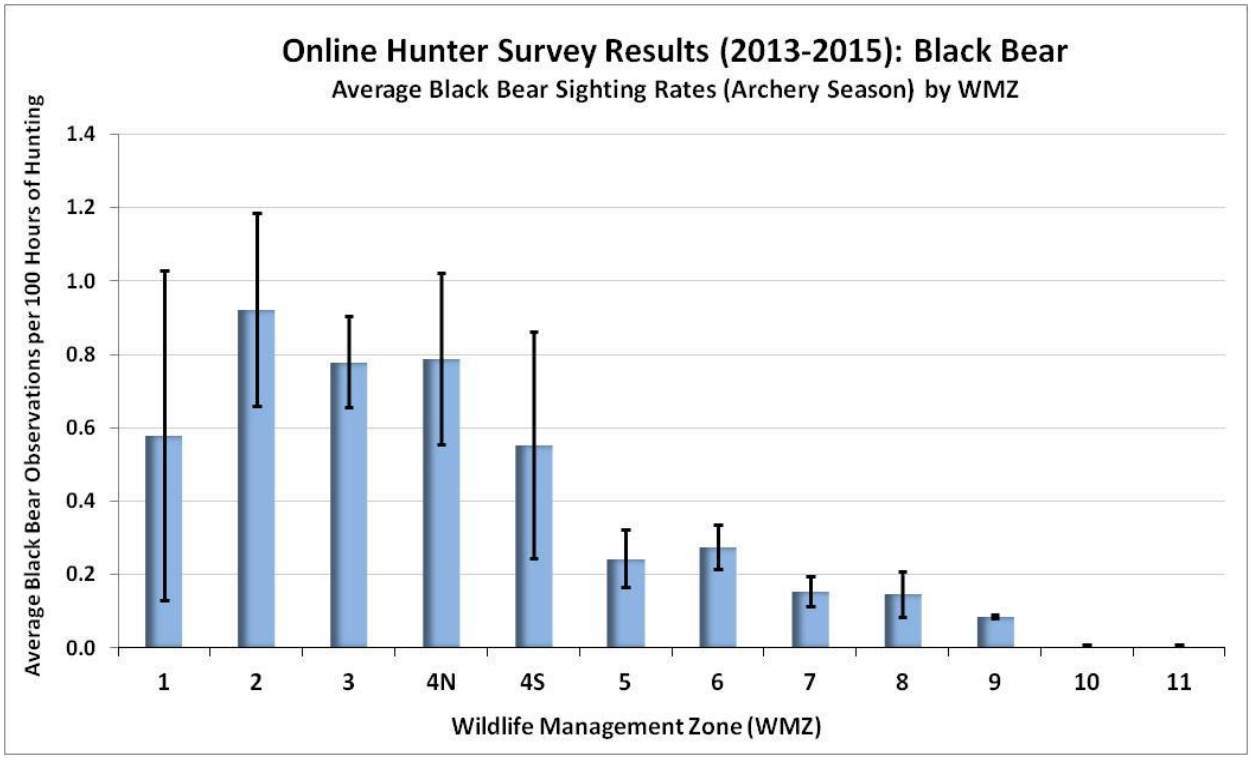
Hunter Survey: Sighting Rates of Deer



What does this figure mean: This figure shows the average deer sighting rates (average sightings per 100 hours: average of each hunter's sighting rate by zone) from the shotgun deer season, averaged across 2012-2015.

Note: zones with low antlerless permit allocations may see higher sighting rates because many of the hunter's do not have an antlerless permit and cannot legally shoot does seen, so they may observe the entire maternal group. The opposite can be said for zones with high allocations, as hunters may shoot the first deer seen and not see the rest of the group.

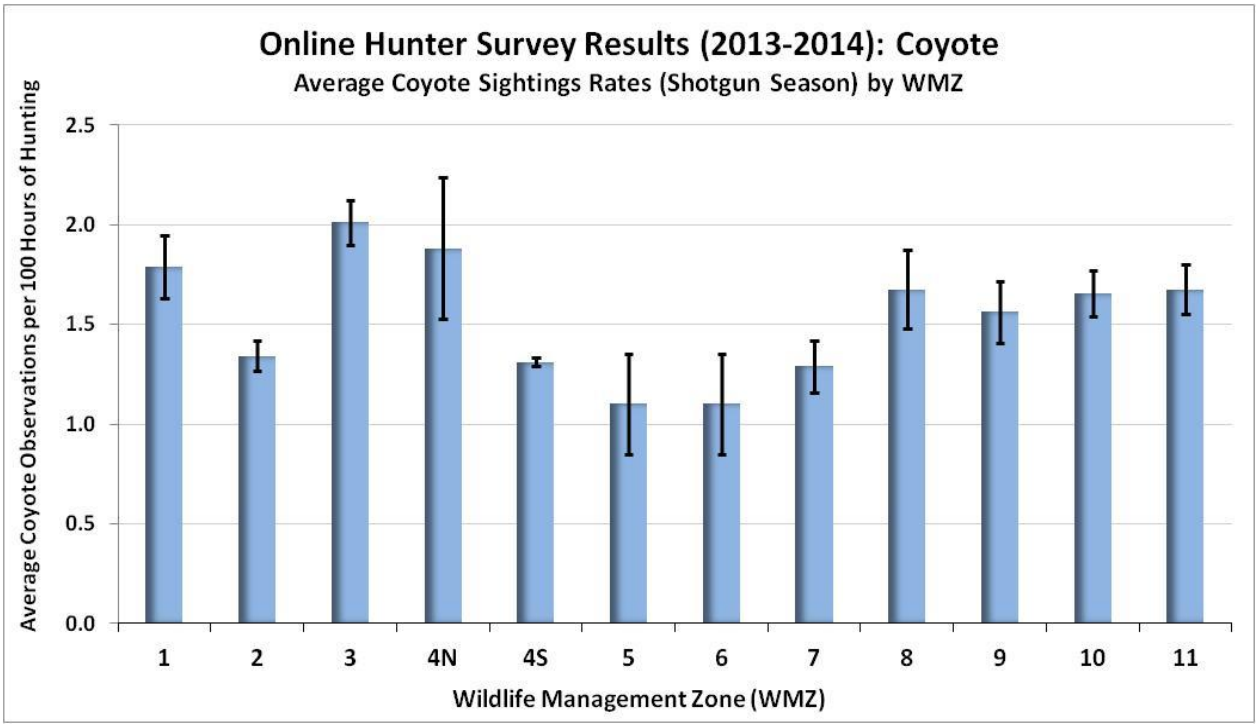
Hunter Survey: Sighting Rates of Black Bear



What does this figure mean: This figure shows the average black bear sighting rates (average sightings per 100 hours) by WMZ from the archery season from 2013-2015. Archery season was used because bears are more active during that time.

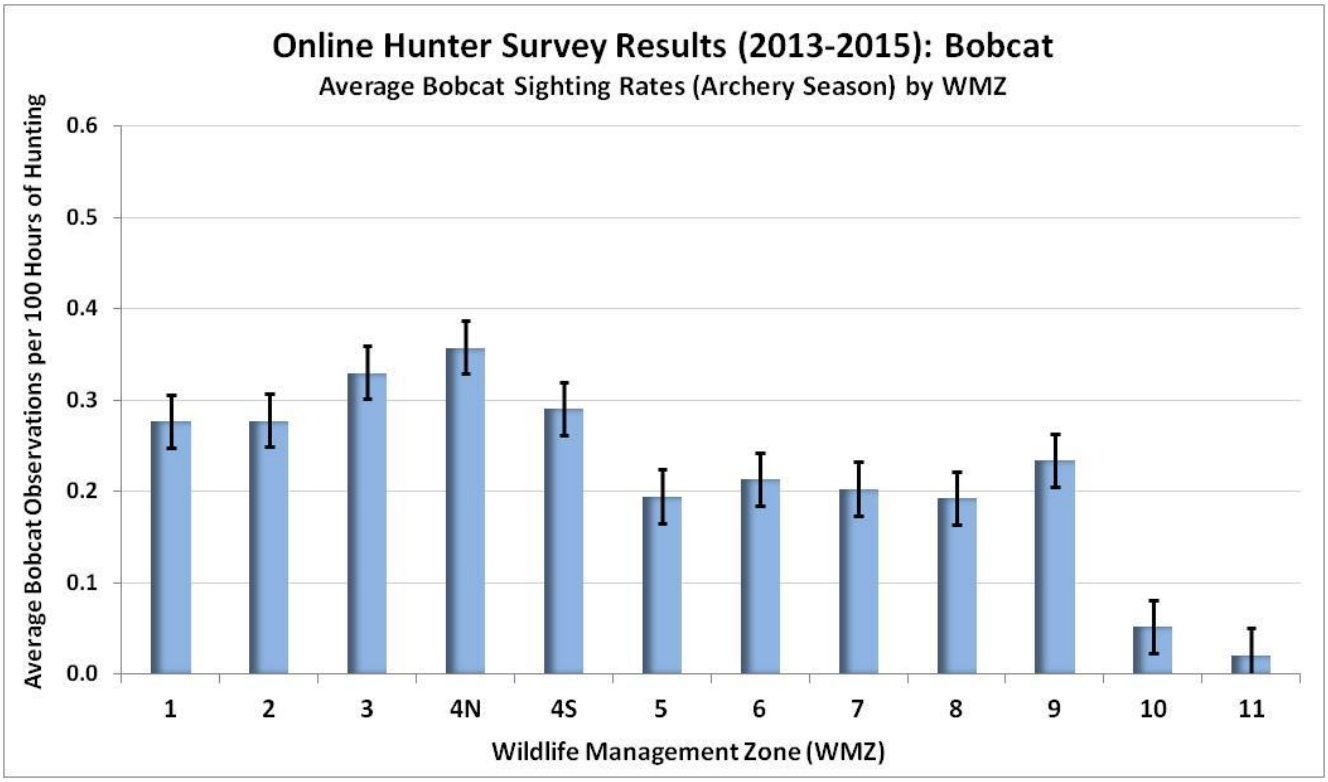
We have much higher black bear densities west of the Connecticut River and the sighting trends by WMZ reflect this. Eastern bear numbers are increasing however, and we are seeing increased sightings in WMZ 9, the eastern edge of state's black bear population.

Hunter Survey: Sighting Rates of Coyote



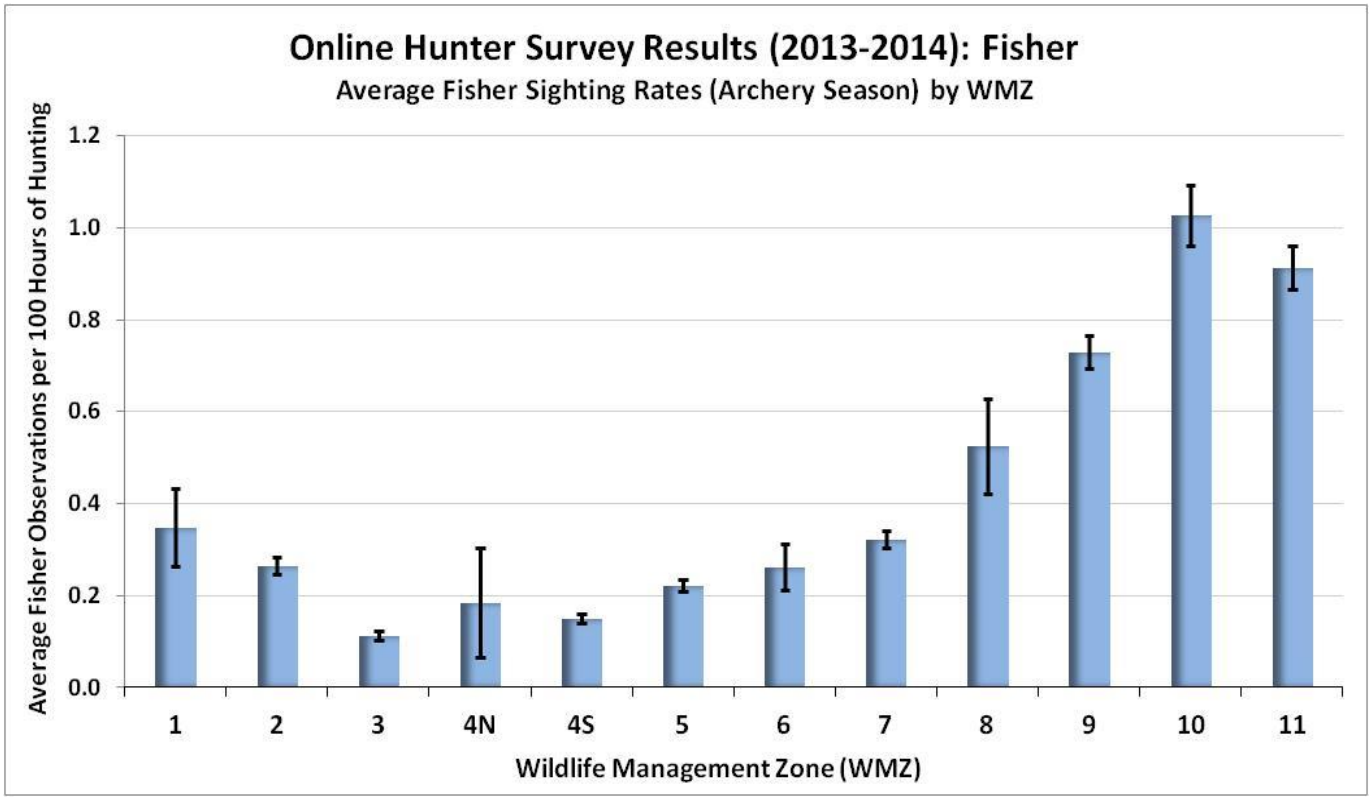
What does this figure mean: This figure shows the average coyote sighting rates (average sightings per 100 hours) by WMZ from the shotgun season from 2013-2014. Similar results were seen in the archery season. Questions on coyote sightings were excluded from the 2015 survey, but were added back in for the 2016 survey.

Hunter Survey: Sighting Rates of Bobcat



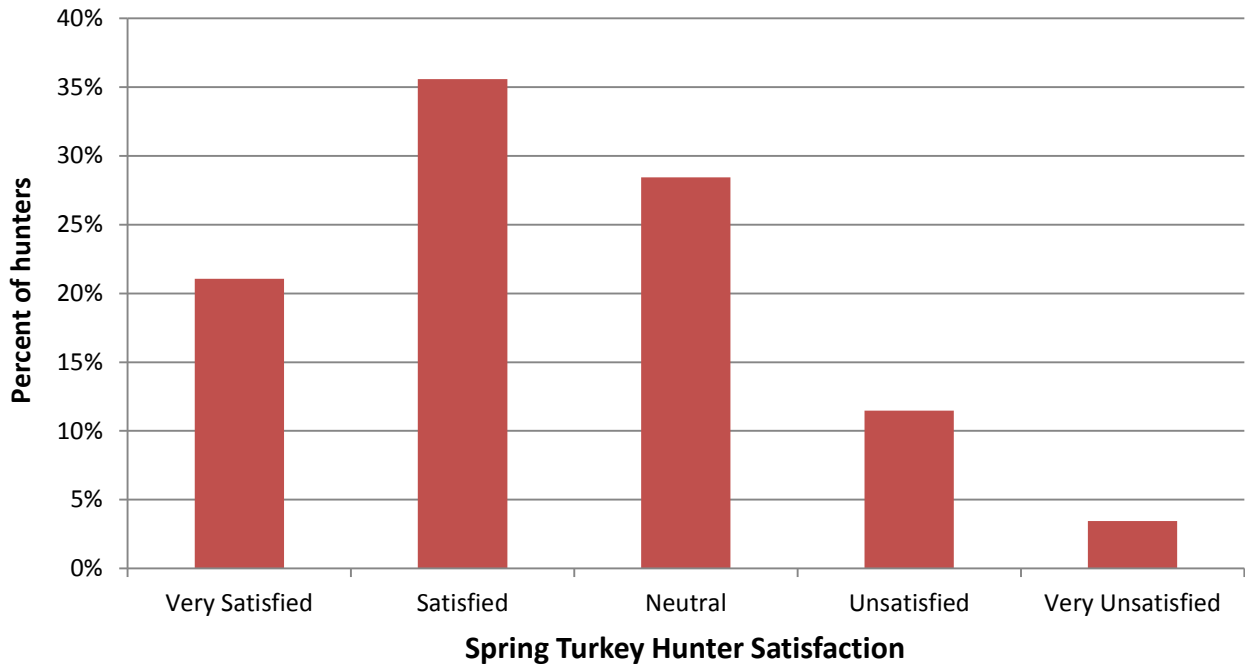
What does this figure mean: This figure shows the average bobcat sighting rates (average sightings per 100 hours) by WMZ from the archery season from 2013-2015. Similar results were seen in the shotgun season.

Hunter Survey: Sighting Rates of Fisher

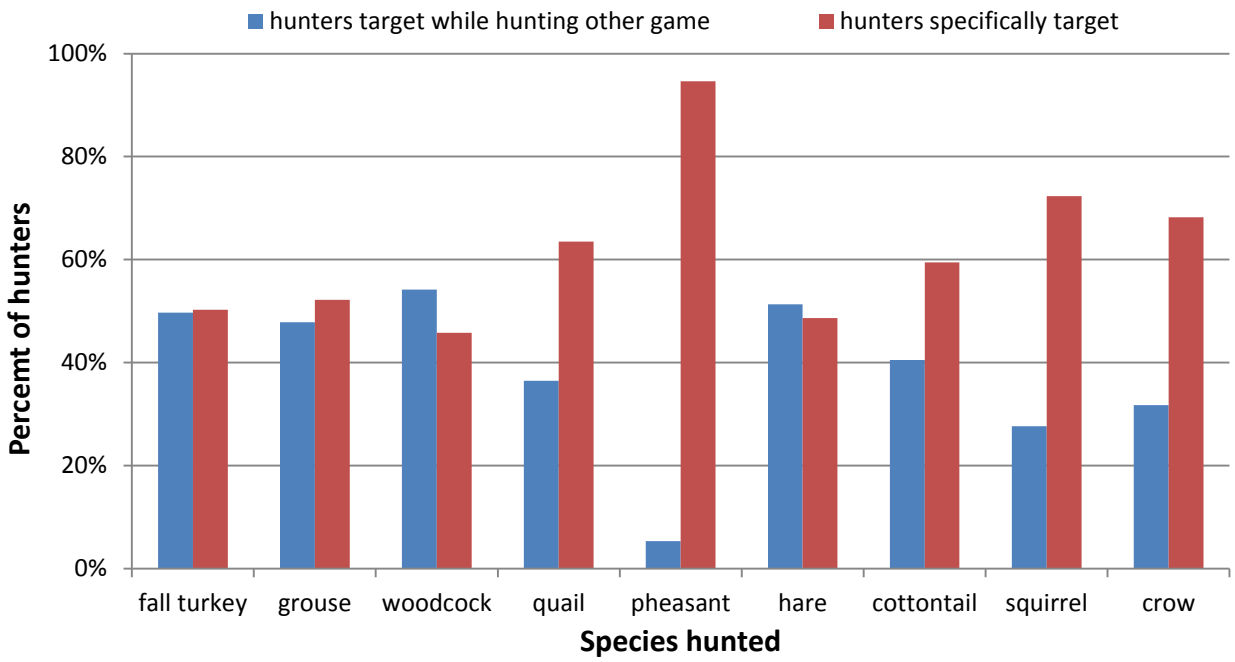


What does this figure mean: This figure shows the average fisher sighting rates (average sightings per 100 hr) by WMZ from the archery season from 2013-2014. Similar results were seen in the shotgun season. Questions on fisher sightings were excluded from the 2015 survey, but were added back in for the 2016 survey.

An interesting note is how much higher sighting rates are in the eastern part of the state compared to the west and central areas. Despite the belief that fisher needed large tracts of forest to thrive, they are doing surprisingly well in more developed areas of eastern MA.



What does this figure mean: We asked turkey hunters to indicate their level of satisfaction with their 2015 spring season. Overall, greater than 55% of hunters were satisfied or very satisfied, while only about 15% were unsatisfied or very unsatisfied. This is important because one of the most important aspects of spring turkey hunting is managing quality hunting experiences. At this point, it appears hunters are largely satisfied with spring turkey hunting across the state.



What does this figure mean: Only about half of hunters are specifically targeting species such as fall turkey, ruffed grouse, woodcock, snowshoe hare when in the field. This indicates that although hunters may not be intentionally targeting those species, they may be opportunistically utilizing that resource. Hunters are more likely to specifically target species such as bobwhite quail, pheasant, cottontail, squirrel and crow. Most notably pheasant hunters seem to be, more than any other small game, very single-focused in their hunting efforts.